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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,842	10/01/2003	Brooks R. Nolan	LCOM:006	3762
36275 7590 04/30/2007 O'KEEFE, EGAN, PETERMAN & ENDERS LLP 1101 CAPITAL OF TEXAS HIGHWAY SOUTH #C200 AUSTIN, TX 78746			EXAMINER HOLZEN, STEPHEN A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/676,842	Applicant(s) NOLAN, BROOKS R.	
	Examiner Stephen A. Holzen	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-21, 23-35, 52, 54-76, 78-80 and 82-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-21, 23-35, 52, 54-63 and 85-94 is/are allowed.
- 6) ☒ Claim(s) 64-66, 75, 76, 78-80 and 95 is/are rejected.
- 7) ☒ Claim(s) 67-74 and 82-84 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 9-21, 23-35, 52, 54-76, 78-80, 82-95 are pending
2. Claims 10, 17, 68, 70, 73, 88-94 are withdrawn.
3. Claims 9, 11-16, 18-21, 23-35, 52, 54-76, 78-80, 82-87, and 95 are currently under initial examination.
4. After completing the initial examination and a thorough review of the art, the examiner determined that claim 33 was allowable over the prior art. Claim 33 is a generic claim that encompasses the non-elected embodiment. Therefore where the examiner has allowed a generic claim, the non-elected embodiment has been rejoined.
5. Claim 33 is directed to an allowable method. Pursuant to the procedures set forth in MPEP § 821.04(b), claims 10, 17, 68, 70, 73, 88-94, directed to the nonelected species, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104. Because a claimed invention previously withdrawn from consideration under 37 CFR 1.142 has been rejoined, **the restriction requirement as set forth in the Office action mailed on 3/21/2007 is hereby withdrawn.** In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the

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provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

6. Claims 9-21, 23-35, 52, 54-76, 78-80, 82-95 are pending
7. Claims 9-21, 23-35, 52, 54-76, 78-80, 82-95 have been examined.

Drawings

8. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings do not illustrate a passenger door. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 75 and 76 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 75, line 3: the phrase "said dispersal regulator" lacks antecedent basis.

Claim Objections

11. Claims 12, 19 and 33 are objected to because of the following informalities. Appropriate correction is required.

Claim 12: This claim appears to substantially repeat limitations from claim 20 (a dispersant material flow path)

Claim 19: Why is the phrase "Host Aircraft Systems" capitalized? Correction is required.

Claim 33: The phrase "providing said fixed wing host aircraft" should be –providing said at least one fixed wing host aircraft—

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 64-66, 75, 76, 78-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hale (20050017131) in view of Batten (2,858,774). Hale disclose providing a fixed wing wide body host aircraft; (see Figure 1) operating said fixed wing wide body host aircraft as a passenger plane (see ¶0040), converting said fixed wing side body host aircraft for aerial dispersion (see ¶0040), aerially dispensing materials (¶0023).

Hale does not teach removing the fire fighting equipment.

Batten teaches that it is known for aircraft to have multiple purposes (tank instillation, carrying passengers). The examiner asserts that it would have been obvious to one having ordinary skill in the art to remove the fire fighting equipment to increase the utility of the aircraft and then use this aircraft for cargo or passenger carrying use.

Hale teaches a DC-10 aircraft which has a carrying capacity great than or equal to about 100,000 lbs (a DC-10 is a wide bodied aircraft).

Hale teaches a material containment subsystem (40), a dispersal subsystem (45) and a control subsystem (85) all coupled together.

Hale inherently teaches a navigation, communication and sensor subsystem since Hale teaches the use of a 747 or DC-10 which inherently have autopilots.

14. Claims 64, 78, 79, 80 and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Busch et al (4,195,693) in view of Rossi (2003/0139135) and further in view of Batten (2,858,774)

Busch et al discloses a method of temporarily converting a fixed wing host aircraft for aerial dispersion purposes comprising:

providing a fixed wing host aircraft (see Figure 1, C160)

providing and loading one or more aerial dispersant holding tanks into the fixed wing host aircraft (tank #1).

The examiner asserts that Busch et al discloses that it is known to manufacture the C160 independent of the firefighting equipment, and after the craft has been manufactured loading the firefighting equipment there. (see Col. 2, lines 40+)

Busch et al does not disclose (1) providing a control subsystem for the fixed wing host aircraft, the subsystem being configured to control the flight characteristics of the fixed wing host aircraft (2) providing communication between the fixed wing host aircraft and a ground source (3) controlling operation of the fixed wing aircraft by communicating from the ground source to provide common control to direct the flight path of the aircraft to aeri ally disperse materials from the aircraft in a coordinated manner (4) removing the tanks from the aircraft.

The examiner asserts that it is well known in the art to provide a subsystem that can control the flight characteristics of the fixed wing host aircraft. The examiner TAKES OFFICAL NOTICE that autopilot systems are a well-known means to control the flight characteristics of a fixed wing aircraft. The examiner concludes then that it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the C160 with an autopilot system for the purpose of increasing the safety of the aircraft and the pilots.

The examiner asserts that it is well known in the art to provide communications between a C160 and a air-traffic-controller. The examiner TAKES OFFICIAL NOTICE

that remote communication systems are well known in the art and are used to communicate between an aircraft in flight and a remote Ground Station. The examiner concludes then that it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a C160 with the ability to communicate with a Ground Station (such as an air traffic controller) for the purpose of increasing the situational awareness of the pilots and thus increase the safety of the aircraft.

Rossi teaches --an airside part 1 made up of various pieces of transmitter/receiver equipment installed on an aircraft 2 and suitable for the various media which can be used for the air-ground communications. This transmitter/receiver equipment and its counterparts on the ground constitute transmission sub-networks. These various transmitters/receivers 10, 11, 12, 13 may feature common parts, such that the various sub-networks may not all be available simultaneously.-- Rossi further teaches an automaton 14 called a router which, in addition to managing undertakes, by manipulating a memory stack in which transit data to be exchanged with the ground, the initialization, the maintenance and the completion of a communication under the control of a software module called CMA (abbreviation of the expression "Context Management Agent"), the routing of a communication under the control of a software module called IDRP (abbreviation of "Inter Domain Routing Policy"), running of preloaded applications for air-traffic control such as the periodic communication of the position of the aircraft to the ground control under the control of a software module called "ATC Applis", and the running of preloaded fleet-management applications such as the monitoring of the

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consumption by the aircraft under the control of a software module called "non-ATC Applis". –

The examiner asserts that Rossi teaches that it is well known in the art to control the operation of the fixed wing aircraft by communicating from the ground source to provide control to direct the flight path of the aircraft. Further, the examiner asserts that Rossi teaches communicating with a plurality of aircraft to monitor and control a fleet of aircraft from a ground station.

The examiner concludes then that it would have been obvious to one having ordinary skill in the art to provide the aircraft of Busch with the capability of communicating with a ground station for the purpose of increasing the situational awareness of the pilots and the air-traffic-controller.

Batten teaches that it is known for aircraft to have multiple purposes (Cargo or passenger carrying configuration). The examiner asserts that it would have been obvious to one having ordinary skill in the art to remove the fire fighting equipment of to increase the utility of the aircraft and then use this aircraft for cargo or passenger carrying use. The examiner asserts that it would have been obvious to one having ordinary skill in the art to remove the fire fighting equipment of Busch et al to increase the utility of the C160.

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None of the references specifically discloses the above method steps being followed through on more than one aircraft. The examiner asserts that it would have been obvious to use the method steps of Busch et al (as modified above) with a plurality of aircraft. The examiner asserts that it would have been obvious to do so because using more than one aircraft would allow fire fighters to have increased fire fighting capacity; and thus increasing speed at which fire can be put out. The examiner assert that merely duplication of the method steps of a method involves only routine skill in the art.

15. Claims 65 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Busch et al, as applied above, and further in view of the DC-10 aircraft manufactured by McDonnell Douglas.

Busch et al teaches that it is known to use a C160 cargo aircraft. C160 aircraft have a cargo capacity of 32,000 lbs. Busch et al, as modified above, does not specifically disclose a cargo capacity of greater than or equal to about 100,000 lbs.

The DC-10-10CF is a convertible passenger/cargo transport aircraft. It was known by at least 7/12/2000 that the DC-10 could carry over 100,000lbs of cargo. ¹

Clearly an aircraft rated to carry over 100,000 lbs of cargo could carry more fire fighting equipment than a 32,000 lbs cargo capacity aircraft.

The examiner concludes then that it would have been obvious to use a DC-10 aircraft in place of the C160 cargo aircraft used by Busch et al for the purpose of increasing the firefighting capacity of the aircraft.

Allowable Subject Matter

16. Claims 9-21, 23-35, 52, 54-63 and 85-94 are allowed.
17. Claims 67-74 and 82-84 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- Re – Claim 20:
 - Busch et al does not teach more than one holding tank and therefore does not teach sequentially loading multiple tanks. Busch et al further does not teach side cargo loading doors. Further Busch does not teach coupling the tanks together.
 - Hale does not disclose the limitations of this claim. It would not be obvious to modify Hale such that (1) it has a side cargo system (2) the tanks are compatible with a side-loading aircraft cargo system (3) the tanks are sequentially loaded into the aircraft through the cargo system. In order for one to modify Hale to render obvious the claimed invention one would need to modify (1) what Hale loads into the plane (2) Where hale loads the cargo (4) how the cargo is loaded. These are not obvious mortifications.
 - Richardson et al does not teach a side cargo door opening, tanks that are compatible with a side-loading cargo system, sequentially loading the tanks into the aircraft and does not literally disclose the step of removing the tanks from the aircraft.

¹ <http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/07-12->

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- Jefferies does not specifically teach two fuel tanks and therefore can not teach sequentially loading them, coupling them, or removing them.
- MacDonald et al does not teach sequentially loading the tanks through a side cargo door system. MacDonald et al further does not teach removing the tanks through the cargo side door. In fact it appears that MacDonald inserts the fire fighting equipment through the belly of the aircraft.
- Newton does not disclose a side cargo door and therefore cannot teach (1) providing a side cargo door (2) loading through the cargo door (3) removing from the side cargo door. Newton discloses loading and unloading the equipment through the aft cargo loading system of the aircraft.
- Re – Claim 33:
 - MacDonald et al does not disclose a temporary conversion, removing the holding tanks after the dispersing.
 - Jefferies does not disclose the number of tanks in the aircraft. Inherently there must be at least one tank. Jefferies does disclose removing the boom, but is silent with respect to removing the tanks. Jefferies does not disclose the sequential loading operation. Further Jefferies can not sequentially load two tanks, because Jefferies does not disclose the loading/removal of any tanks. It would be improper for one of ordinary skill in the art to assert that it would have been obvious to (1) load the aircraft with two tanks AND (2) sequentially load the non-disclosed tanks. Further Jefferies does not disclose a connection between tanks

simply because Jefferies does not teach two tanks. Further Jefferies does not teach using a side cargo door for loading and does not use a passenger door for loading the tanks. Instead Jefferies uses a rear cargo door. The applicant should appreciate that a "rear cargo door" does not read on a "passenger door". The examiner asserts that while a passenger can physically walk through the rear cargo door, the phrase "passenger door" is a term of art that is outside the scope of a "rear cargo door". A passenger door is a door located on the side of the aircraft that is primarily used and designed for commercial passengers.

- Richardson et al (4,172,499) does not disclose a temporary conversion of an aircraft, and therefore does not teach the step of removing the tanks from the aircraft. Richardson does not teach a step of sequentially loading the tanks and therefore cannot teach sequentially loading them through an non-disclosed door (passenger, cargo, or other door).
 - Hale does not disclose the limitations of this claim. It would not be obvious to modify Hale such that (1) it has a side cargo system (2) the tanks are compatible with a side-loading aircraft cargo system (3) the tanks are sequentially loaded into the aircraft through the cargo system. In order for one to modify Hale to render obvious the claimed invention one would need to modify (1) what Hale loads into the plane (2) Where hale loads the cargo (4) how the cargo is loaded. These are not obvious mortifications. Alternatively Hale does not disclose a passenger door, nor does Hale teach sequentially loading the tanks through a passenger door.
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Applicant should appreciate that passenger door = door on the side of the aircraft used by commercial passengers. A passenger door is not a cargo door in the rear of the aircraft.

- Re – Claim 88: The prior art does not teach loading tanks through a passenger door (in combination with the other elements of the claim). Applicant should appreciate that passenger door = door on the side of the aircraft used by commercial passengers. A passenger door is not a cargo door in the rear of the aircraft.
- Re – Claim 67:
 - Busch et al does not teach a side loading cargo system. Busch does not teach using a side loading cargo system to load the tanks.
 - Hale does not teach a side loading cargo system. Busch does not teach using a side loading cargo system to load the tanks.

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen A. Holzen whose telephone number is 571-272-6903.

The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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